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101ST CONGRESS *2d Session*	SENATE	REPORT 101-329

MOTOR VEHICLE FUEL EFFICIENCY ACT OF 1990

Mr. HOLLINGS, from the Committee on Commerce, Science, and Transportation, submitted the following

REPORT

OF THE

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ON

S. 1224

together with

ADDITIONAL AND MINORITY VIEWS

JUNE 11, 1990.—Ordered to be printed

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Mr. HOLLINGS, from the Committee on Commerce, Science, and Transportation, submitted the following

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[To accompany S. 1224]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 1224) to amend the Motor Vehicle Information and Cost Savings Act to require new standards for corporate average fuel economy, and for other purposes, having considered the same, reports favorably thereon with an amendment in the nature of a substitute and recommends that the bill as amended do pass.

PURPOSE OF THE BILL

The primary purpose of this measure is to increase the current corporate average fuel economy (CAFE) levels for passenger vehicles by 40 percent by the model year 2001. The bill would require an interim increase of 20 percent, effective in model year 1995. Current fuel economy standards were enacted in 1975, and have required no increase since 1985.

In addition, the bill would double the civil penalties assessed those manufacturers who fail to meet the standards in more than two consecutive model years. It also would require studies by the National Academy of Sciences and the Department of Energy (DOE) to provide the Congress with information on technical potential and policy options for fuel economy standards in the period after 2001. Finally, manufacturers of small cars which equip vehi-

cles with airbags could receive a credit of up to 10 percent over the measured fuel economy of those vehicles.

Background and Needs

NEED FOR FUEL ECONOMY

Congress enacted fuel economy standards in 1975 out of a concern for the energy security of the Nation. The standards were adopted over the objections of the auto industry that such standards were impossible to meet. Despite this initial opposition, the industry's achievement has been impressive. Since the 1975 standards were enacted, the fuel economy of the fleet has doubled, with no loss of interior volume or performance.[1] Had this improvement not occurred, it is estimated that cars and light trucks in the United States would be consuming an additional 2.5 million barrels of oil per day, and drivers would be spending at least an additional $40 billion per year for gasoline.[2]

The 1975 law required that the standards increase incrementally, and sometimes annually, until 1985 when the standards leveled off at 27.5 miles per gallon (mpg) for passenger automobiles. The 1975 law also permitted the Secretary of Transportation (Secretary) to raise or lower the statutory standard to the "maximum feasible level" of fuel economy. Between 1986 and 1989, the Secretary decreased the fuel economy standard, first to 26 mpg, and then to 26.5 mpg. During those years, manufacturers who had petitioned for decreases in the standards actually exceeded the reduced standards, and earned credits to be used for meeting the standards in future years.

The 1975 law also required that the Secretary establish fuel economy standards for other passenger vehicles, and the Secretary defined such vehicles as "light trucks" (including small pickups, minivans, and jeep-type vehicles). The Secretary has established such standards, although the light truck standards have required little improvement over the years, and will require no improvement between 1991 and 1992.[3]

Since the enactment of the 1975 law, although the price of gasoline has declined, the Nation's energy security situation has not improved. For example, in January 1990, the country imported 54 percent of the oil it consumed.[4] Longer term data presents a similar basis for concern. The Energy Information Administration of DOE predicts a 4 percent annual growth in net oil imports between 1988 and 2000. If this prediction occurs, imported petroleum will represent 55 percent of total annual oil consumption by the year 2000, substantially above the previous high of 47 percent in 1978, and higher than the percentage of imported oil used during the oil embargo or enactment of the 1975 CAFE law.[5]

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[1] Testimony of Marc Ledbetter, Senior Associate, American Council for An Energy-Efficient Economy, S. Hrg. 101-129 at 237, 249.

[2] Ledbetter testimony, *supra., at 237.*

[3] 55 Fed. Reg. 12487 (April 4, 1990).

[4] U.S. Department of Energy, Energy Information Administration.

[5] Letter from Linda Stuntz, Deputy Under Secretary, Policy, Planning, and Analysis, DOE, to Senator Richard Bryan, dated November 7, 1989, at Answer to Question 1.

In January 1989, then-President Reagan informed the Congress under Section 232 of the Trade Expansion Act that "Petroleum imports threaten to impair the national security." Additionally, in 1989, $49 billion, or almost half, of the country's $108.6 billion trade deficit was due to oil imports.[6]

In addition to the national security and trade benefits, increased energy efficiency will insure that the country can save its most fragile and beautiful coastal and wilderness resources for future generations. For example, achieving a new car average of 40 mpg by 2000 would aggregate a total oil savings of almost 15 billion barrels of oil in 2020—five times the Interior Department's hoped-for production from the Arctic Coastal Plain, which environmentalists now consider the Nation's premier wildlife refuge.[7]

Moreover, since enactment of the 1975 law, scientists have become aware of another reason that energy efficiency is important—to reduce the emission of carbon dioxide, which is a direct result of the burning of fossil fuels such as gasoline. Each gallon of gasoline used typically produces 18 pounds of carbon dioxide.[8] Carbon dioxide has been recognized as a "greenhouse gas," which contributes to a thermal blanket around the Earth.[9]

This blanket traps some of the infrared radiation which is emitted from the Earth's surface, leading to warming. Although there is uncertainty regarding the rate and magnitude of the warming, there is a scientific consensus that if the concentrations of greenhouse gases are increased significantly above current levels, then atmospheric temperatures will rise.[10] The atmospheric concentration of carbon dioxide has increased approximately 25 percent in the past 100 years, in part due to fossil fuel combustion as well as industrial and agricultural activities.[11]

Given the uncertainty regarding the timing and magnitude of any global warming, there also is uncertainty about how regional climate patterns may change.[12] However, many climate specialists include on the list of possible consequences a rise of several feet in global sea levels and a consequent loss of 80 percent of coastal wetlands, a higher probability of drought and unacceptably high temperatures during growing season in certain areas, and the failure of many plant and animal forms.[13]

Transportation energy use accounts for about one-third of the energy impact on global warming, or about 20 percent of the possible total warming contribution worldwide.[14] Automobiles are the dominant component of transportation energy—about 60 percent of transportation energy use in the industrialized market economies of the Organization for Economic Cooperation and Development.[15]

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[6] U.S. Department of Commerce.

[7] Testimony of Brooks Yeager, Vice President, National Audubon Society, before Consumer Subcommittee, September 7, 1989 (S. Hrg. 101-347), at 93, citing Watson, R., "Oil and Conservation Resources Fact Sheet: A Least-Cost Planning Perspective," Natural Resources Defense Council, August 1988.

[8] Stuntz letter, *supra*, at Answer to Question 2.

[9] Testimony of Richard D. Morgenstern, Director, Office of Policy Analysis, EPA, before Consumer Subcommittee, May 2, 1989; S. Hrg. 101-129 at 95.

[10] *Id.*

[11] *Id.*

[12] *Id.* at 99.

[13] Yeager testimony, *supra*, S. Hrg. 101-347 at 97.

[14] Morgenstern testimony, *supra*, S. 101-129 at 100.

[15] *Id.*

Of the approximately 5 billion total tons of carbon dioxide produced in the United States in 1985, transportation sector energy use was responsible for about 32 percent. Passenger car use accounts for about 46 percent of the transportation sector total, or about 14 percent of total U.S. emissions.[16] Carbon dioxide emissions from the U.S. transportation sector exceeded carbon dioxide emissions from all sources in each of the following countries or regions: Latin America, Japan, Middle East, West Germany, South and Southeast Asia, United Kingdom, Africa, and France.[17]

Although U.S. carbon dioxide emissions from vehicles make up a relatively small percentage of worldwide carbon dioxide emissions (about 4 percent), any single source in any single country necessarily will be a small proportion of the overall emissions. Because the total is made up of small percentages, no single country or source can legitimately claim that it is not part of the problem.[18] According to the Environmental Protection Agency (EPA), vehicle fuel economy improvements are an inherent part of any reasonable overall solution to global warming. Moreover, in the judgment of EPA, it would be in the interest of the United States to take fuel economy measures, even if other nations did not follow, because of the other environmental and energy security benefits that would accrue.[19]

Additionally, the Committee received testimony to indicate that there is a correlation between increased automobile efficiency and lowered hydrocarbon and carbon monixide emissions.[20] The transportation sector currently accounts for almost 30 percent of all U.S. hydrocarbon and nitrogen oxide emissions, which combine to form smog. Thus, increased efficiency may play a role in attaining healthful urban air.[21]

FUEL ECONOMY TRENDS

Statutory passenger car fuel economy standards have not increased since reaching 27.5 mpg in 1985. Between 1986 and 1989, the Department of Transportation (DOT) used its discretion to reduce the standards below 27.5 mpg. In recent years, the fuel economy of the fleet has actually declined. According to EPA, between 1988 and 1990 the fleet fuel economy will decline by 4 percent, with a corresponding increase of 6 percent in the weight of the fleet, and a 7 percent increase in horsepower.[22]

In addition, there has been very little improvement in the fuel economy of the light truck fleet since 1982. The fleet average fuel economy was 20.5 mpg in 1982, and is projected to be 20.9 mpg for 1990.[23] DOT has issued fuel economy standards for model year

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[16] Stuntz letter, *supra*, at Answer to Question 2.

[17] Testimony of James J. Mackenzie, Senior Associate, Climate, Energy, and Pollution Program, World Resources Institute, before Consumer Subcommittee, September 7, 1989, S. Hrg. 101-347 at 85.

[18] Morgenstern testimony, *supra*, S. Hrg. 101-129 at 108.

[19] *Id.*

[20] Yeager testimony, *supra*, S. Hrg. 101-347 at 93-4.

[21] *Id.*

[22] Murrell and Heavenrich, "Downward Trend in Passenger Car Fuel Economy—A View of Recent Data," EPA, Office of Air and Radiation, Technical Report EPA/AA/CTAB/90-01 (January 1990) at 1.

[23] DOT, National Highway Traffic Safety Administration (NHTSA), NEF-31, "Summary of Fuel Economy Performance Estimated on a Year-to-Year Basis." Compare 1982 summary with 1990 summary.

1992, and required no increase, over the 1991 standard, setting the fuel economy standard at 20.2 mpg.[24]

At the same time, light trucks are becoming an ever-larger proportion of light duty vehicles on the road, and are increasingly used for carrying passengers rather than cargo. In 1970, such vehicles represented only 15 percent of new light duty vehicle sales, while in 1989 they represented about one-third of new light duty sales.[25] A 1982 survey by the Department of Commerce (DOC) found that 73 percent of light trucks do not carry cargo.[26]

While fleet fuel economy has been declining, there has been a rapid increase in vehicle miles traveled in the United States. Vehicle miles traveled is a measurement that reflects both the changes in the number of vehicles on the road and the number of miles each vehicle is driven. During the 1970–80 period, vehicle miles traveled grew at a rate of 3.1 percent per year. Between 1980 and 1989, vehicle miles traveled grew at an annual rate of 3.4 percent.[27] Thus, despite a doubling of the fleet fuel economy since 1983, gasoline consumption has actually increased by 10 percent in that same period.[28]

There are a wide variety of forecasts for the future growth in vehicle miles traveled. The Energy Information Administration of DOE predicts a 2.1 percent annual growth between 1988 and 2000.[29] The current EPA model predicts about a 36 percent increase in vehicle miles traveled between the present and 2001.[30] As a result, EPA estimates that a corresponding 36 percent increase in the fuel economy of the new car fleet would be required to offset that growth in vehicle miles traveled and simply maintain the status quo in gasoline consumption.[31] DOT projects that vehicle miles traveled will double betweeen 1988 and the year 2020.[32] The World Resources Institute estimates that, even if the fuel economy standards in the reported bill were enacted and fully implemented, by the year 2010 gasoline use will have increased by 3 percent over 1986, due to increased vehicle miles traveled.[33]

EFFECTIVENESS OF FUEL ECONOMY STANDARDS

Notwithstanding the dramatic increases in the fuel economy of the fleet since enactment of CAFE standards, some continue to question the effectiveness of such standards in improving fuel economy. Testimony received by the Committee demonstrated, however, that in the current situation such standards are not only effective but necessary to achieve such increases.

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[24] 55 Fed. Reg. 12487 (April 4, 1990).

[25] Testimony of Marc Ledbetter, Senior Associate, American Council for an Energy-Efficient Economy, before the Consumer Subcommittee, S Hrg. 101-129 at 12.

[26] Bureau of the Census, DOC, "Truck Inventory and Use Survey" (1982), cited in Ledbetter testimony, "*supra*, at 12, footnote 9.

[27] Stuntz letter, *supra*, at Answer to Question 4.

[28] Mackenzie testimony, *supra*, S. Hrg. 101-347 at 75.

[29] DOE/Energy Information Administration, "1989 Annual Energy Outlook," cited in Stuntz letter, *supra*, at Answer to Question 4.

[30] Letter from William Rosenberg, Assistant Administrator for Air and Radiation, EPA, to Senator Richard Bryan, dated December 21, 1989, at Answer to Question 4.

[31] *Id.*, at Answer to Question 5.

[32] DOT, Discussion Paper on Intelligent Vehicle-Highway System, May 1989, at 3.

[33] MacKenzie testimony, *supra*, S. Hrg. 101-347 at 77.

Rising gasoline prices played a role in improving fuel economy over the last 15 years, since in such situations the market demands fuel economy as a higher priority. However, the historical record demonstrates that, even when gasoline prices fell, fuel economy continued to rise. This increase can only reasonably be explained by the existence of fuel economy standards.[34]

Additionally, although gasoline prices will continue to be an influence on fuel economy, they will be a diminishing influence as the fuel economy of the fleet increases. This is because the more fuel efficient the car, the smaller is the fraction of operating costs attributable to fuel costs.[35] This is confirmed by the experience of other industrialized countries with gasoline prices much higher than those in the United States. Even in areas in which gasoline prices are two to four times higher, mpg remains in the high 20s and low 30s. For example, the International Energy Agency reports 1985 fuel economy of 31.4 mpg for West Germany (1988 gasoline price, $2.23/gallon); 31.1 mpg for the United Kingdom ($2.63/gallon); and 30.2 mpg for Japan ($3.58/gallon).[36]

FEASIBILITY OF INCREASED FUEL ECONOMY

The increases in the reported bill would require fleet fuel economy for passenger cars of approximately 34 mpg by 1998 and 40 mpg by 2001. For light trucks, the required fleet average would be approximately 25.5 mpg by 1995 and 29.8 mpg by 2001. These levels of fuel economy are believed by the Committee to be achievable utilizing technology currently in production, with minimal effect on consumer choice or cost. In reaching this conclusion, the Committee has relied on a variety of authorities, including the following:

Office of Technology Assessment (OTA)

OTA testified before the Consumer Subcommittee that a fleet average of 32–33 mph is possible by 1995 without change in the size mix of the fleet or loss of performance, and at a cost compensated for by fuel savings, but only if industry begins immediately to incorporate available technology into its product plans. At the high end of this estimate, size and performance would have to be held at 1987 levels.[37] A 1982 OTA study projected fuel economy by 1995 of 39–54 mpg, and 2000 of 43–62 mpg, with no shift to smaller cars.[38]

EPA

Using the highest mpg cars in each weight class for model year 1988, and assuming all cars sold in that weight class achieved that mpg, the fleet average for 1988 could have been 33.9 mpg. This means that using the most fuel efficient 1988 technology, with no

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[34] Ledbetter testimony, *supra*, S. Hrg. 101-129 at 241-2 and attachment C. This testimony demonstrates that gasoline prices have been falling since 1982, while fuel economy continued to rise until the late 1980s.

[35] Ledbetter tesitmony, *supra*, S. Hrg. 101-129, at 243.

[36] Ledbetter tesitmony, *supra*, S. Hrg. 101-129, at 242.

[37] Testimony of Steve Plotkin, Senior Associate, Energy and Materials Program, OTA, S. Hrg. 101-129 at 57.

[38] OTA "Increased Automobile Fuel Efficiency and Synthetic Fuels, Alternatives for Reducing Oil Imports" (1982), at 122-126.

change in the size mix of the fleet, the 1988 fleet would average 33.9 mpg.[39]

DOE

DOE has stated that, using conventional technologies, the fleet fuel economy can be raised to between 35 and 40 mpg during the 1995 to 2000 period.[40] DOE further has stated that the domestic fleet, with maximum use of technology currently in production, and holding vehicle size mix and performance levels at 1987 levels could achieve 32 to 33 mpg for 1995 and 39 mpg for 2001. [The potential for the entire fleet would be higher, since the domestic fleet's current achievement is slightly lower than the fleet as a whole.][41] DOE cautions, however, that it "does not believe it is practical to return to [1987] levels of performance and size by 1995. To do so would greatly disrupt current product plans and lessen manufacturers' ability to apply available fuel economy technology and, at the same time, achieve emissions, safety, and possible alternative fuels goals." For 2001, DOE states that "substantially greater opportunity exists to improve fuel economy through technology and revised product plans. . . . While this level of fuel economy [39 mpg] is technically achievable and sufficient time exists to make product plan changes, it still presents a high level of risk to the vehicle manufacturers."

Automobile Industry Suppliers

Testimony received by the Consumer Subcommittee from a survey of suppliers to the auto industry, including suppliers of all major vehicle components, reflected the suppliers' agreement that higher levels of fuel economy can be achieved. The average recommendation of the suppliers for CAFE levels in the future was 33 miles per gallon by 1995 and 41 miles per gallon by 2000.[42]

Carmen Difiglio (DOE) K.G. Duleep (Energy and Environmental Analysis, Inc.), and David Green (Oak Ridge National Laboratory), Energy Journal, Vol. II, No. 1, 1990) "Cost Effectiveness of Future Fuel Economy Improvements"

For domestically produced vehicles, the fleet can be at 31.6 mpg by 1995 by holding size and performance to 1987 levels, at a cost offset by fuel savings over 4 years. This corresponds to the OTA 1995 figure of 32–33 mpg for the entire fleet. For 2001, holding size and performance at 1987 levels, the domestic fleet can achieve a level of 36.4 mpg at a cost offset by fuel savings over 10 years, or 39.4 mpg at a cost of $264 per car above that offset by fuel savings. [The potential of the entire fleet would be higher, since the domestic fleet has the lowest average at present.]

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[39] EPA, Office of Mobile Sources, Office of Air and Radiation, "Light Duty Automotive Technology and Fuel Economy Trends Through 1989," EPA Technical Report EPA/AA/CTAB 98-04 (May 1989).

[40] Letter from Donna Fitzpatrick, Acting Secretary of Energy, to Congressman John Dingell, dated February 14, 1989.

[41] Stuntz letter, *supra*, at Answer to Question 6.

[42] Testimony of Earl Landesman, Principal, A.T, Kearney, S. Hrg. 101-347 at 229.

Internationl Institute for Energy Conservation

Testimony before the Consumer Subcommittee demonstrated that technology currently exists to achieve fuel economy levels considerably above the levels set by this bill. However, most of the research on additional fuel economy technology is occurring overseas, because domestic automakers are not convinced that there is a long-term interest, by government or consumers, in improved fuel economy. If this research trend is not reversed through government regulation or otherwise, domestic automakers could suffer a competitive disadvantage over the long term.[43]

The automobile industry, and particularly the domestic industry, testified that the levels set by the reported bill cannot be achieved without considerable downsizing of the fleet.[44] However, this testimony was virtually identical to that of the industry in 1974–75 prior to the passage of current law,[45] which was proven dramatically inaccurate. The Committee is not convinced that the industry's ability to predict what it is capable of achieving in the next decade has improved significantly in light of considerable data to the contrary.

The Committee recognizes that the industry could choose to meet increased CAFE standards by selling only the smallest cars in its fleet, rather than increasing its utilization of fuel economy technology across a range of sizes in its fleet. However, manufacturers obtain considerably higher profit margins on the sale of larger, more expensive vehicles than on "economy" models.[46] Therefore, given the industry's track record regarding technological challenges, as well as the economic incentives available to continue to sell a range of sizes of vehicles, the Committee does not believe it is logical to conclude that the industry will respond in a way inconsistent with consumer demand.

The Committee also is aware that DOT, shortly before Committee consideration of the reported bill, communicated its opposition to the bill and its belief that the CAFE levels are not technically feasible without significant downsizing. However, the Committee was not persuaded by that communication, for several reasons. First, DOT's judgement regarding technical feasibility cites no data or research to support its view. Additionally, in a letter to the Consumer Subcommittee dated February 2, 1990, DOT stated that it did not have the information necessary to determine the fuel economy achievable with a return to 1987 size and performance and using available technology.[47] Its letter regarding technical feasibility was sent approximately 2 months later, with no indication of how it had obtained the information on which its opinion was based.

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[43] Testimony of Deborah Bleviss, Executive Director, International Institute for Energy Conservation, S. Hrg. 101-129 at 200-217.

[44] See Testimony of Hal Bracken, Group Vice President, Toyota Motor Sales, U.S.A., S. Hrg. 101-347 at 147; testimony of Tony Harrington, Manager, Government and Industry Relations, Hordan North America, Inc., S. Hrg. 101-347 at 194-198; testimony of Jerry L. Benefield, President and CEO, Nissan Motor Manufacturing Corp., S. Hrg. 101-347 at 217-18.

[45] *See e.g.*, Statement of GM, Ford, and Chrysler at Hearing on S. 1903, Energy Conservation Working Paper, S. Hrg. 93-41 at 141, 177, and 195.

[46] Plotkin testimony, *supra*, S. Hrg. 101-129 at 34.

[47] Letter from Phillip D. Brady, General Counsel, DOT, to Senator Richard Bryan, dated February 2, 1990, at Answer to Question 6.

SAFETY ISSUES

Each year more than 45,000 Americans die in highway crashes and another 520,000 are hospitalized with serious injuries. According to DOT, highway crashes cost the U.S. economy $75 billion annually. Highway crashes are the leading cause of death for Americans between the ages of 1 and 34. Highway safety is, of course, a high priority of the Committee.

Some have raised concerns about the effect of increased CAFE standards on vehicle safety, should increased standards result in a significantly smaller vehicle fleet. There has been some debate over whether the reported bill's fuel economy goals could be achieved without downsizing of the vehicle fleet, and considerable evidence has been received that such downsizing will not be necessary. However, there is general agreement that it is important to find ways to improve the safety record of all vehicles, including small cars.

A 1989 Insurance Institute for Highway Safety (IIHS) study on vehicle size found that cars with a wheelbase under 95 inches have a fatality rate of 3 deaths per 10,000 registered vehicles. Large cars with a wheelbase of over 110 inches have a rate of 1.4 fatalities per 10,000 registered vehicles.[48] According to IIHS, these differences exist even if one controls for the age and gender of the driver. However, testimony was received from the Center of Auto Safety that a wide range of safety technologies are available that will enhance the safety of all cars, including small cars, so that smaller cars do not necessarily mean a loss of safety. These safety technologies include improved side impact protection and airbags for all front-seat occupants.[49]

The reported bill endeavors to improve the safety of small cars by giving manufacturers incentives to equip them with airbags. Under DOT's 1984 passive restraint rule, a car must be equipped with either airbags or automatic seat belts. Although either option is available to manufacturers, it is well established that a combination of airbags and lap/shoulder belts provides superior protection. So-called "automatic" seat belts have not substantially increased belt use rates. A 1989 IIHS study found that detachable automatic belts are being disconnected by motorists and dealers, and thus the benefits of those belts are being lost.[50]

Even when a seat belt is worn, it is not as effective as an airbag. A German study assessed the effectiveness of automatic belts on more than 600 vehicle occupants involved in frontal collisions. The study found that, even when wearing automatic belts, 30.4 percent of the drivers suffered a head impact and 10.6 percent suffered skull-brain trauma. The study also found that 28.6 percent of the drivers experienced chest injuries.[51]

Safety experts believe that seat belts cannot provide the protection that airbags afford in a severe crash. Examples of recent crashes of vehicles equipped with airbags, in which occupants were

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[48] IIHS, "Vehicle Size," July 1989, June Fleming, ed.

[49] Testimony of Clarence Ditlow, Executive Director, Center for Auto Safety, S. Hrg. 101-129 at 268-9.

[50] IIHS, *Status Report*, Vol. 24, No. 9, September 23, 1989.

[51] Otte, Sudkamp, and Apell, "Residual Injuries to Restrained Car-Occupants in Front and Rear-Seat Positions," Accident Research Unit, Hanover, West Germany (1987).

saved from serious injury by the airbags, include the following. On March 12, 1990, two airbag-equipped Chrysler LeBarons collided head on in Culpepper County, VA. The vehicles were destroyed, but the airbags allowed the drivers to walk away with minor bruises. In 1989, in Lancaster County, VA, the driver of a Chrysler LeBaron convertible with an airbag survived a head-on, 80-mph closing speed crash with a full-size station wagon. In another accident that occurred in 1989, an 18-year old driver from Lee, NH, survived a 50-mph crash with a large tree stump because he was driving an airbag-equipped Dodge Daytona. In July 1989, in the mountains outside of Boise, ID, the Lincoln Continental being driven by the parents of CBS newswoman Kathleen Sullivan flew off the road. The car flew 58 feet in the air before landing on its roof. Local police and DOT officials said the couple survived the crash because their Continental had driver- and passenger-side airbags.

DOT has estimated that the general availability of airbags in passenger cars could prevent 8,000 fatalities annually. About 3.3 million 1990 model cars will have driver-side airbags and a number of models will also have passenger-side airbags. Unfortunately, to date, very few small cars have been equipped with airbags.[52]

Section 14 of the reported bill would, beginning in model year 1995, give a manufacturer which puts both driver- and passenger-side airbags in a small car a 10 percent boost in the fuel economy rating for that car. For example, a Ford Escort that is currently rated at 36.1 mpg would get a 10 percent boost to 39.7 mpg (36.1 + 3.61). A manufacturer which installed a driver-side airbag only would get a 5 percent CAFE boost.

The Committee does not intend that this credit be considered by the Secretary in determining the maximum feasible fuel economy for the purposes of exercising this discretion to raise or lower the the fuel economy standards. The IIHS estimates that equipping small cars with full front airbag systems could save up to 1,400 lives and prevent thousands of injuries annually when fully implemented.[53] Public Citizen, the Alliance of American Insurers, the American Insurance Association, the National Association of Independent Insurers, and other insurance associations and companies strongly support the credit as a means of improving the safety of small cars.

STRUCTURE OF CAFE IN THE LEGISLATION

The reported bill would retain the current structure of the CAFE law with one exception. In place of the current numerical standard that must be met by all manufacturers, the reported bill requires each manufacturer to improve by the same *percentage,* so that each manufacturer's numerical level would be different. The Committee intends that all other aspects of the current CAFE structure, including the treatment of alternative fuel vehicles established by Public Law 100-494, be retained.

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[52] IIHS, *Status Report,* Vol. 24, No. 10, October 21, 1989, at 6-7.

[53] Letter from Alan F. Williams, Vice President, Research, IIHS, to Senator John C. Danforth, dated September 30, 1989.

The change made by the bill is for the purpose of insuring, to the extent possible, that the standards correct an unfairness in the current system and actually save fuel. Under the current system, since small car manufacturers easily meet the numerical standard, they can offset the level of the small cars by building less fuel efficient cars and marketing them; as a result, more large cars are sold and no fuel is saved. By requiring everyone to do better, it is less likely that any manufacturer can provide the market with larger, less fuel efficient vehicles in large numbers.[54]

This approach also corrects the inequity in current law created by requiring all manufacturers, regardless of the size of cars they build, to meet the same CAFE level. Manufacturers of small cars are not challenged by the current standards, while manufacturers who make a full range of sizes have difficulty. The new approach would require equal improvement from all manufacturers.[55]

The percentage approach would require achievement of an average 1.7 mpg more improvement by the major Japanese manufacturers as compared to the major United States manufacturers. By contrast, a requirement of a 40 mpg numerical standard across the fleet would require U.S. manufacturers to improve an average of 4 mpg more than the major Japanese manufacturers.[56] While no approach can be perfectly identical in impact among manufacturers due to the market niches selected by each manufacturer, the percentage approach minimizes the differences among small and large car manufacturers.

A 40-PERCENT EFFICIENCY IMPROVEMENT

Manufacturer	1988 CAFE[1]	40 percent improvement and a 45 MPG "cap"	Total MPG improvement
Domestics:			
Ford	26.4	37.0	10.6
General Motors	27.6	38.6	11.0
Chrysler	28.4	39.8	11.4
Imports:			
Suzuki	50.3	45.0	−0.3
Daihatsu	46.5	45.0	−1.5
Nissan	30.4	42.6	12.2
Toyota	32.6	45.0	12.4
Honda	32.0	44.8	12.8

Note: Average MPG improvement required by Ford, GM, Chrysler: 11.0 MPG. Average MPG improvement required by Nissan, Toyota, Honda: 12.7 MPG. Difference between major domestics and major imports: 1.7 MPG.

A 40-MPG CAFE STANDARD

Manufacturer	1988 CAFE[1]	40 MPG CAFE	Total MPG improvement
Domestics:			
Ford	26.4	40.0	13.6
General Motors	27.6	40.0	12.4
Chrysler	28.4	40.0	11.6

[54] Bleviss testimony, *supra*, S. Hrg. 101-347 at 128-9.

[55] Testimony of Robert G. Liberatore, Executive Director, Public Policy and Legislative Affairs, Chrysler Corp., S. Hrg. 101-129 at 164-5.

[56] The tables below, calculated from NHTSA fuel economy data, show the effect of the 40 percent efficiency standard and, alternatively, a 40 mpg standard on mpg improvement required of certain manufacturers:

A 40-MPG CAFE STANDARD—Continued

Manufacturer	1988 CAFE[1]	40 MPG CAFE	Total MPG improvement
Imports:			
Suzuki	50.3	40.0	−10.3
Daihatsu	46.5	40.0	−6.5
Nissan	30.4	40.0	9.6
Toyota	32.6	40.0	7.4
Honda	32.0	40.0	8.0

[1] The MPG value for domestic manufacturers is based on their domestic production; the MPG value for import manufacturers is based on their import production.

Note: Average MPG improvement required by Ford, GM, Chrysler: 12.5 MPG. Average MPG improvement required by Nissan, Toyota, Honda: 8.3 MPG. Difference between major domestics and major imports: 4.2 MPG.

Additionally, the bill as reported contains a "cap" or maximum level of fuel economy required, to avoid unduly burdening manufacturers which achieved high levels of fuel economy by 1988. Five of the 10 Asian manufacturers will take advantage of these caps in either 1995 or 2001.[57]

According to EPA, in recent years the gap between imported and domestic manufacturers' fuel economy has been closing, from a difference of 8 mpg in 1983, to a 3 mpg difference in 1990. Between 1988 and 1990, the fuel economy of Asian manufacturers eroded more than twice as fast as that of the domestic manufacturers, with the domestic manufacturers' fuel economy declining by 3 percent, and the Asian manufacturers' fuel economy declining by 6 percent. The horsepower of the Asian fleet increased by 22 percent, as compared to a 5 percent increase in that of the domestic fleet.[58]

Some foreign manufacturers, particularly Japanese companies, testified in opposition to the percentage structure, claiming that it is unfair because it requires the highest CAFE levels of those manufacturers who already have achieved the best fuel economy. They also argued that it prevents those manufacturers with current fleets of primarily small cars from entering the larger or luxury car market, thereby unfairly protecting the domestic manufacturers' current dominance of the larger car market. Indeed, Honda, Toyota, and Nissan all have recently introduced luxury models to compete with the European luxury vehicles like BMW.

Certain companies recommended, instead, separate CAFE standards for each size or weight class of vehicle to require the same level of improvement in each class.[59] They suggested that this remedies the current unfair treatment of large car manufacturers, since all vehicles would have to improve. They further suggested that this approach avoids burdening manufacturers that have achieved high levels of fuel economy and rewarding those who have not done well. It also allows sales of whatever size mix of vehicles the market demands. Since each size class would have separate standards, if consumers wanted increased numbers of large vehicles those could be sold as long as the vehicles in the larger classes achieved the required improvements in fuel economy.

[57] NHTSA, "Summary of Fuel Economy Performance on a Year-to-Year Basis," *supra*, Model Year 1998.

[58] Murrell and Heavenrich, *supra*, EPA Report EPA/AA/CTAB/90.01.

[59] This figure is calculated from NHTSA data.

However, the separate size or weight class standards presently available do not, standing alone, prohibit increases in the size and weight of the fleet as a whole, and so do not ensure that fuel savings actually will result from such standards.[60] For this reason, the percentage approach is believed to be the only legislative approach available at this time that assures achievement of the environmental and energy security goals of this legislation.

The Committee bill however, does include a provision for two studies of options for fuel economy standards in the period after 2001. Such studies are intended to provide the Congress with information about the technical levels and structure of standards that would be most appropriate for that future period.

FUEL AND CARBON DIOXIDE SAVED BY THE LEGISLATION

DOT calculates that the total fuel savings as a result of the reported bill for the time period 1995 through 2001 would be 49.1 billion gallons. Additional savings would be realized as the 2001 standard continued in effect. DOT calculates that, between 1995 and 2001, the reported bill would reduce carbon dioxide emissions by 483.5 million tons, with additional savings after 2001.

Legislative History

Senator Bryan, chairman of the Consumer Subcommittee, introduced S. 1224 on June 22, 1989. The bill has 14 cosponsors, including Senators Hollings, Gorton, Gore, Inouye, and Kerry on the Committee. One other bill related to CAFE standards has been referred to the Committee in the 101st Congress: S. 984, introduced by Senator Metzenbaum.

The Committee held 2 days of hearings on the issue of fuel economy in the 101st Congress: S. Hrg. 101-129, on global warming and CAFE standards, held on May 2, 1989; and S. Hrg. 101-347, on S. 1224, held on September 7, 1989.

On April 3, 1990, the Committee in open executive session considered S. 1224 and, by a roll call vote of 14-4, ordered it reported with an amendment in the nature of a substitute. The substitute in general contained technical changes from the bill as introduced, with two exceptions: the addition of a credit toward fuel economy standards for those manufacturers of small cars which install airbags, which was proposed by Senator Danforth; and the addition of a study to be performed by DOE of the policy options for increased fuel economy after the year 2001, proposed by Senator Gore.

Summary of Major Provisions

As reported, S. 1224 would:

1. Increase the CAFE standards for passenger cars and light trucks over 1988 levels by 20 percent in 1995 and 40 percent in 2001. The required levels would be subject to minimum and maximum levels as follows: for cars, a minimum of 27.5 mpg and maximum of 40 mpg in 1995, and a minimum of 33 mpg in 1995 and 45 mpg in 2001; for light trucks, a minimum of 20.9 mpg and maxi-

[60] Bleviss testimony, *supra*, S. Hrg. 101-347 at 128-9.

mum of 30 mpg in 1995, and a minimum of 24 mpg and maximum of 35 mpg in 2001.

2. Permit the Secretary of Transportation to modify the statutory standards for any year after model year 2001 to reflect the "maximum feasible" level of fuel economy, but not below a standard requiring a 30 percent increase over 1988 levels of fuel economy for the applicable type (or class) of vehicles.

3. Permit manufacturers of vehicles with a wheelbase of less than 100 inches and fuel economy of 35 mpg and above to earn a credit toward their fuel economy standard of up to 10 percent by installing airbags in such vehicles.

4. Double the civil penalties to be assessed from manufacturers which fail to meet CAFE standards for any manufacturer which violates the standards for more than two consecutive years by more than .5 mpg.

5. Require three studies and reports to Congress on: (1) the accuracy of current EPA tests of vehicle fuel economy; (2) the technological potential for improving the fuel economy of the passenger fleet in the next century; and (3) policy options for fuel economy standards beyond the year 2001.

Estimated Costs

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

U.S. Congress,
Congressional Budget Office,
Washington, DC, April 17, 1990.

Hon. Ernest F. Hollings,
Chairman, Committee on Commerce, Science, and Transportation, U.S. Senate, Washington, DC.

Dear Mr. Chairman: The Congressional Budget Office has reviewed S. 1224, the Motor Vehicle Fuel Efficiency Act of 1990, as ordered reported by the Senate Committee on Commerce, Science, and Transportation, April 3, 1990. CBO expects that enactment of this bill would result in additional costs to the federal government of about $1 million in each of the fiscal years 1991 and 1992 and about $500,000 per year thereafter. We do not expect the bill to result in significant costs to state or local governments.

S. 1224 would establish new corporate average fuel economy (CAFE) standards beginning with model year 1995. These new standards would be based on the average fuel economy achieved by each manufacturer of passenger automobiles in model year 1988. Manufacturers would be required to maintain an average 20 percent above their 1988 level in model years 1995 through 2000, and 40 percent above their 1988 level after 2000. The bill would establish similar standards for light trucks.

This bill would require several studies by the Secretaries of Transportation and Energy, and by the Administrator of the Environmental Protection Agency. In addition, the Department of Energy would be required to distribute at least 100 booklets con-

taining fuel economy information to each automobile dealer. Currently, the department distributes 50 of these booklets to each dealer.

CBO estimates that the cost of the studies required by S. 1224 would be about $1.5 million, mostly in 1991 and 1992. The cost of distributing additional booklets would be about $400,000 per year. Enactment of this legislation could also result in the collection of additional fines after model year 1995 as a result of higher CAFE standards, but CBO is unable to predict which or how many manufacturers would be unable to achieve these new standards.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contacts are Marjorie Miller and Kim Cawley, who can be reached at 226-2860.

Sincerely,

ROBERT D. REISCHAUER,
Director.

REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported.

NUMBER OF PERSONS COVERED

This legislation increases the stringency of CAFE regulations currently in existence. As it does not change the definitions of those covered by current regulation, the number of persons covered should be consistent with current levels.

ECONOMIC IMPACT

The reported bill does not increase the duties required of the agencies charged with implementing current regulations. It requires three additional studies to be carried out through agency appropriated funds, and does not authorize additional appropriations, so it is not expected to require significant increases in government expenditures. It is expected that affected vehicle manufacturers will incur some additional cost in producing vehicles capable of achieving higher fuel economy standards. This cost has been estimated to be less than $300 per car over the amount saved by the consumer in gasoline costs, and it is, therefore, not expected to have an inflationary impact on the Nation's economy.

PRIVACY

This legislation will not have any adverse impact on the personal privacy of the individuals affected.

PAPERWORK

This legislation continues a regulatory scheme now in effect, and does not add any additional requirements for the regulators. Therefore, there should be no change in paperwork requirements associated with these programs.

SECTION-BY-SECTION ANALYSIS

SECTION 1—SHORT TITLE

This section states the short title of the legislation, the "Motor Vehicle Fuel Efficiency Act of 1990."

SECTION 2—FINDINGS

This section sets out the 16 findings on which the bill is based, including: (1) Improved energy efficiency is necessary not only to promote energy security and improve the trade balance, but also to reduce carbon dioxide emissions which contribute to the greenhouse effect; (2) the light duty vehicle fleet is responsible for about 39 percent of U.S. oil consumption, and the transportation sector is responsible for 31 percent of U.S. carbon dioxide emissions; (3) CAFE standards have been extremely effective in the past in increasing fuel efficiency without restricting consumer choice of vehicles; (4) CAFE requirements have not increased since 1985; and (5) technology exists to increase further fuel economy.

SECTION 3—AVERAGE FUEL ECONOMY STANDARDS

This section amends the current fuel economy standards for passenger cars to reflect that the current standards will remain in effect through model year 1994, and that standards set by the bill as reported will become effective in model year 1995 and thereafter.

SECTION 4—LIGHT TRUCKS

This section amends the current requirement that the fuel economy standards for light trucks be set by the Secretary to reflect that the Secretary's standards will remain in effect through model year 1994, and that after model year 1994 the light truck standards will be in accordance with the bill as reported.

SECTION 5—EXEMPTIONS FOR LIMITED PRODUCTION

This section makes a technical change to the current law permitting exceptions from CAFE standards for manufacturers who make fewer than 10,000 vehicles. The technical change reflects the fact that the CAFE standards from which exceptions will be granted are being increased.

SECTION 6—EMERGENCY VEHICLES

This section makes a technical change, like that made by section 5, to the current law that permits exceptions to the CAFE standards for emergency vehicles.

SECTION 7—CONSULTATION

This section makes a technical change to the section of current law that requires the Secretary to consult with the Secretary of Energy in administering the law, to reflect that the law includes the changes made by the bill.

SECTION 8—NOTIFICATION

This section makes a technical change to the provision of current law that requires the Secretary to notify the Secretary of Energy before taking action to modify any standard or grant any exception. The technical change reflects the fact that the standards involved include the standards set by this bill.

SECTION 9—NEW STANDARDS

This section establishes new CAFE standards for passenger automobiles and automobiles other than passenger automobiles (light trucks, minivans, and jeeps) for model years 1995 and thereafter. For passenger automobiles in model years 1995 through 2000, each manufacturer must increase its 1988 fuel economy by 20 percent, except that no standard shall be less than 27.5 mpg or more than 40 mpg. For passenger automobiles in model years 2001 and after, each manufacturer must meet a standard equal to its 1988 CAFE plus 40 percent except that no standard shall be less than 33 mpg or more than 45 mpg.

For automobiles other than passenger automobiles (light trucks, etc.), for model years 1995 through 2000, each manufacturer must meet a standard equal to its 1988 CAFE for these vehicles plus 20 percent, except that no standard shall be lower than 20 mpg or higher than 30 mpg. For model years 2001 and after, each manufacturer must meet a standard equal to its 1988 CAFE plus 40 percent, but no lower than 24 mpg or higher than 35 mpg.

This section also alters the current authority of the Secretary to modify statutory standards, by permitting modifications for model years 2001 and after, except that the standard cannot be lower than a 30 percent increase over each manufacturer's 1988 CAFE level. Current law permits reductions or increases by the Secretary to a level that the Secretary determines is the "maximum feasible average fuel economy" for that model year. This section retains that standard for reduction or increase, but expands upon the factors to be considered by the Secretary in making that determination to insure that economic factors receive appropriate, but not excessive, weight.

SECTION 10—FUEL ECONOMY TESTING

This section requires the Administrator of EPA to conduct a study of the testing methods used to establish the fuel economy of particular vehicles. The results of those tests are to be compared with the actual on-road performance of those vehicles, and the Administrator is to report to Congress on the results of that study.

SECTION 11—EXPLANATORY BOOKLET DISTRIBUTED BY THE SECRETARY OF ENERGY

This section amends the current requirement that consumer information booklets regarding fuel economy be available to auto dealers, to insure that sufficient numbers of booklets are prepared.

SECTION 12—STUDIES

This section requires the Secretary to provide for a review by the National Academy of Sciences, in consultation with all interested parties, including manufacturers and environmental groups, of the state of research and development in vehicle fuel economy and the potential for future improvement. The first report of this review is to be submitted to Congress within 2 years of enactment, and the report shall be updated every 5 years. Such a report will provide Congress with the necessary information to act on fuel economy standards for the period beyond 2001.

This section also requires the Secretary of Energy, in consultation with the Secretary of Transportation and the Administrator of EPA, to undertake a study of the future policy options for regulating the fuel efficiency of the passenger vehicle fleet after the year 2001. The study shall examine alternative forms of fuel economy regulation for their effectiveness, their economic impact, and their effect on the competitiveness of the U.S. economy. A report on the results of this study shall be submitted not later than 3 years after enactment of the bill.

SECTION 13—REPEATED VIOLATIONS OF AVERAGE FUEL ECONOMY STANDARDS

This section increases the civil penalties now imposed on manufacturers which fail to meet the fuel economy standards. The penalties would be doubled, but only for "repeat offenders,"—those manufacturers who fail to meet the standards for more than 2 consecutive model years, and by .5 gallons or more. The purpose of this change is to deter the current practice of certain manufacturers which never meet the standards, and simply pay penalties as a matter of course.

SECTION 14—AIRBAG CREDIT FOR SMALL PASSENGER AUTOMOBILES

This section provides a credit for manufacturers of small passenger automobiles, defined as those with a wheelbase of less than 100 inches and whose measured fuel economy is at least 35 mpg, which install airbags in those vehicles. For such vehicles that are equipped with driver-side airbags, the fuel economy will be calculated to result in a 5 percent increase over the measured fuel economy; for such vehicles with both driver-and passenger-side airbags, the fuel economy will be the equivalent of a 10 percent increase over the vehicles' measured fuel economy.

The purpose of this provision is to encourage the installation of airbags, a proven safety feature, in the smallest vehicles in the fleet. At present, some manufacturers install airbags in the luxury segment of their market, but comply with Federal safety standards by installing automatic seatbelts instead of airbags in the smaller vehicles. The Committee is convinced that the combination of seatbelts and airbags significantly enhances passenger safety in the event of a frontal collision, and thus wishes to encourage their installation throughout the fleet.

SECTION 15—DEFINITIONS

This section makes a technical change to clarify that the terms "passenger automobile" and "light truck", as used in sections 10 and 12 of the reported bill, will continue to have the meaning they have under current law.

ROLLCALL VOTES IN COMMITTEE

In accordance with paragraph 7(c) of the rule XXVI of the Standing Rules of the Senate, the Committee provides the following description of the record votes during its consideration of S. 1224:

The Committee considered an amendment in the nature of a substitute and accepted, without objection, two amendments offered by Senator Gore to the substitute. At the close of debate on S. 1224, the Chairman announced a rollcall vote on the bill as amended. On a rollcall vote of 14 yeas and 4 nays as follows, the bill was ordered reported:

YEAS	NAYS
Mr. Hollings	Mr. Ford [1]
Mr. Inouye [1]	Mr. Kasten
Mr. Exon [1]	Mr. Burns
Mr. Gore	Mr. Lott
Mr. Rockefeller	
Mr. Bentsen [1]	
Mr. Kerry [1]	
Mr. Breaux [1]	
Mr. Bryan	
Mr. Robb	
Mr. Danforth	
Mr. Pressler	
Mr. McCain	
Mr. Gorton	

[1] By proxy.

ADDITIONAL VIEWS OF MR. EXON

Our Nation is importing nearly half its oil from foreign countries. Scientists warn of adverse consequences from the "greenhouse effect" and global warming related to the burning of fossil fuels. It is important for Congress to be mindful of these concerns and try to address them. Fuel efficiency standards for automobiles is one avenue among many others to do so. It is important for our Nation to keep trying to make progress in this area, which is why I supported reporting the bill to the Senate floor.

However, in setting specific fuel efficiency goals, Congress must also be mindful that the goals are realistic and achievable. The committee has listened to arguments back and forth on a number of issues that call as much or more for scientific and technical judgments as they do for governmental policy judgments. Concerns have been expressed whether the technology is available to meet the particular fuel efficiency numbers in the time frame alloted, whether implementation would result in the type of cars preferred and the type of pickup trucks needed by consumers, and whether the particular formula utilized in the bill would result in a fair contribution to fuel efficiency among the various manufacturers.

Since it is still early in the legislative process, I look forward to further information and debate on the technical and scientific issues in the bill. It is important that the final bill not only addresses energy security and environmental concerns, but also make sense and can be accomplished in a realistic and fair manner. I urge all sides in the debate to work together in good faith during the remainder of the legislative process towards those goals.

MINORITY VIEWS OF MESSRS. LOTT, FORD, AND BURNS

We oppose the stringency of the car and truck fuel economy requirements in S. 1224. Two of the Government agencies most involved in analyzing the capability of manufacturers to meet these requirements—the Department of Transportation and the Department of Energy—have objected to the stringency of the standards incorporated in S. 1224.

S. 1224 seeks to increase the fuel economy level for the new car fleet to approximately 40 mpg standard. According to DOT Secretary Skinner, this "bill could have a devastating impact on American consumers, auto workers, highway safety, and our vehicle industry." DOE Secretary Watkins concurs, stating, "We do not believe that 33 mpg (1995) or 39 mpg (2001) are fuel economy levels that the domestic automobile industry could achieve without substantial and costly disruption."

We are concerned about the impact this bill would have on consumer choice as a result of the massive downsizing that manufacturers would have to pursue in order to meet the standards. When this issue was considered during markup, Senator Bryan said DOE indicated the industry would only have to return to 1987 size levels in order to meet the standards. The Senator's remarks paralleled an earlier press release which he issued claiming that DOE's data supported domestic passenger car fuel economy standard of 33 mpg by 1995 and 39 mpg by 2001. According to DOE, this is a "distorted reading" of their position.

What DOE did say is that while it is "theoretically feasible" for domestic vehicle manufacturers to achieve 32 to 33 mpg for passenger cars if "they modified product plans to make maximum use of available technology and return to 1987 levels of vehicle size, performance and luxury . . . we do not believe it is practical by 1995." DOE went on to say that to do so would "greatly disrupt current product plans and lessen manufacturers' ability to apply the available fuel economy technology, and at the same time, achieve emissions, safety, and possible altenative fuels goals." With respect to the standards for model year 2001, DOE said a 39 mpg standard presented a high level of risk for the industry and may not be cost effective.

DOT was even more adamant in its assessment of the impact S. 1224 would have on vehicle choice as a result of downsizing. Again quoting from Secretary Skinner's letter,

> The technical feasibility of achieving CAFE standards at levels outlined in S. 1224, without significant vehicle downsizing, has simply not been demonstrated . . . These drastic increases in CAFE standards are highly impractical since they would radically curtail the choice of new vehicles available to American consumers. Manufacturers

> would be forced to scale back or eliminate the production of large and mid-size cars and trucks, leaving only small vehicles for sale.

Sponsors of this bill say that manufacturers can increase the fuel economy of their cars and trucks 40 percent and it will have no noticeable impact on consumer choice or price. The Federal agencies that know the most about fuel economy disagree. We believe everyone should understand that passing this bill will likely impose costly lifestyle changes on our constituents, both in price of the size car necessary to accommodate their needs, and in the safety of the ones from which they have left to choose.

We are concerned about the impact this bill will have on pick-up trucks and vans. These vehicles have rarely been mentioned in this debate but could be the most affected. The rapid rise in the sale of these vehicles over the past several years is due to the fact that they have the cargo or passenger carrying capacity and utility features no longer available in passenger cars. We do not want our farmers, ranchers, tradesmen, and other businessmen who rely on cargo and towing capacity of today's trucks to no longer be able to purchase the size vehicles necessary to do their job.

Many families that like the outdoors may be restricted in their ability to purchase 4x4s or vehicles which can tow boats or campers. Imagine trying to pull a camper or tow a boat with a 4-cylinder underpowered engine. Like trucks, passenger vans have gained tremendous popularity in recent years because manufacturers no longer produce station wagons which are capable of carrying larger families.

In addition to the stringency of the standards mandated by S. 1224, we also are concerned about the methodology used to determine the standards. Under the bill, each manufacturer would have to increase its car and truck CAFE 20 percent by 1995 and 40 percent by 2001.

High-mileage companies that have exceeded the current CAFE standard are penalized for doing so because under this bill they would have to meet a higher CAFE standard than companies that did not exceed the current standard. Placing a company at a competitive disadvantage for exceeding Government mandates is poor public policy. Secretary Skinner recognized another problem with this approach when he said:

> Basing a CAFE requirement on a percentage of a manufacturer's current average fuel economy, the bill would inefficiently require relatively greater improvement by manufacturers who have achieved the greatest fuel economy to date.

Sponsors of the bill say they adopted the uniform percentage increase approach because the current single number CAFE requirement put full-line companies at a disadvantage. Even if this is the case, and we would like to hear from the appropriate agencies on this point, surely there has to be an alternative that does not punish good past behavior. The Office of Technology Assessment, for example, has looked at a size class based approach as an alternative to the uniform percentage increases.

The view of some of the sponsors of this approach is evidently to give our domestic companies a competitive advantage over higher mileage imports. We are concerned this attempt to create a competitive advantage may backfire. Forcing import companies to meet higher standards may ultimately make those companies stronger competitively. If there is ever another disruption in the price or the availability of oil, domestic auto makers would be placed at a competitive disadvantage, at our insistance. This makes little sense.

The uniform percentage increase approach is flawed in both directions. On the one hand it overtly punishes those companies that have done the most in the field of energy conservation. On the other hand, if this approach is mandated in order to provide domestic manufacturers with a competitive edge, we are ever fearful that this edge will last only so long as gasoline is readily available, and gasoline prices remain relatively low.

DOE is currently evaluating the CAFE program as part of developing a national energy strategy. We believe DOE, in consultation with DOT and EPA, should be allowed to complete their analysis before Congress rushes to mandate unreasonable fuel economy standards.

All evidence provided to the committee by the appropriate agencies indicates the standards in S. 1224 are unreasonable and could result in unfortunate economic consequences.

We strongly urge Members of the Senate to reject S. 1224 when it comes to the floor.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new material is printed in italic, existing law in which no change is proposed is shown in roman):

MOTOR VEHICLE INFORMATION AND COST SAVINGS ACT

Section 502 of that Act

AVERAGE FUEL ECONOMY STANDARDS APPLICABLE TO EACH MANUFACTURER

SEC. 502. (a)(1).—Except as otherwise provided in paragraph (4) or in subsection (c) or (d), the average fuel economy for passenger automobiles manufactured by any manufacturer in any model year after model year 1977 shall not be less than the number of miles per gallon established for such model year under the following table:

	Average fuel economy standard (in miles per gallon)
Model year:	
1978	18.0
1979	19.0
1980	20.0
1981	Determined by Secretary under paragraph (3) of this subsection.
1982	Determined by Secretary under paragraph (3) of this subsection.
1983	Determined by Secretary under paragraph (3) of this subsection.
1984	Determined by Secretary under paragraph (3) of this subsection.
[1985 and thereafter	27.5.]
1985 through 1994	*27.5.*
1995 and thereafter	*As provided in accordance with section 514 of this Act.*

(2) through (3) * * *

(4) [The Secretary] *Except in the case of standards established by section 514, the Secretary* may, by rule, amend the average fuel economy standard specified in paragraph (1) for model year 1985, or for any subsequent model, to a level which he determines is the maximum feasible average fuel economy level for such model year, except that any amendment which has the effect of increasing an average fuel economy standard to a level in excess of 27.5 miles per gallon, or of decreasing any such standard to a level below 26.0 miles per gallon, shall be submitted to the Congress in accordance with section 551 of the Energy Policy and Conservation Act and

shall not take effect if either House of the Congress disapproves such amendment in accordance with the procedures specified in such section.

(5) * * *

(b) The Secretary shall, by rule, prescribe average fuel economy standards for automobiles which are not passenger automobiles and which are manufactured by any manufacturer in each model year which begins more than 30 months after the date of enactment of this title *and which ends before model year 1995.* Such rules may provide for separate standards for different classes of such automobiles (as determined by the Secretary), and such standards shall be set at a level which the Secretary determines is the maximum feasible average fuel economy level which such manufacturers are able to achieve in each model year to which this subsection applies. Any standard applicable to a model year under this section shall be prescribed at least 18 months prior to the beginning of such model year.

(c)(1) On application of a manufacturer who manufactured (whether or not in the United States) fewer than 10,000 [passenger] automobiles in the second model year preceding the model year for which the application is made, the Secretary may, by rule, exempt such manufacturer from subsection (a) *or (b), or section 514 or 515.* An application for such an exemption shall be submitted to the Secretary, and shall contain such information as the Secretary may require by rule. Such exemption may only be granted if the Secretary determines that the average fuel economy standard otherwise applicable under subsection (a) *or (b), or section 514 or 515,* is more stringent than the maximum feasible average fuel economy level which such manufacturer can attain. The Secretary may not issue exemptions with respect to a model year unless he establishes, by rule, alternative average fuel economy standards for [passenger] automobiles manufactured by manufacturers which receive exemptions under this subsection. Such standards may be established for an individual manufacturer, for all automobiles to which this subsection applies, or for such classes of such automobiles as the Secretary may define by rule. Each such standard shall be set at a level which the Secretary determines is the maximum feasible average fuel economy level for the manufacturers to which the standard applies. An exemption under this subsection shall apply to a model year only if the manufacturer manufactures (whether or not in the United States) fewer than 10,000 [passenger] automobiles in such model year.

(2) * * *

(d) * * *

(e) For purposes of this section, in determining maximum feasible average fuel economy, the Secretary shall consider—

(1) technological feasibility;

(2) economic practicability;

(3) the effect of other Federal motor vehicle standards on fuel economy; and

(4) the need of the Nation to conserve energy.

For purposes of this subsection, the Secretary shall not consider the fuel economy of alcohol powered automobiles or natural gas powered automobiles, and the Secretary shall consider dual energy

automobiles and natural gas dual energy automobiles to be operated exclusively on gasoline or diesel fuel. *In determining maximum feasible average fuel economy, the Secretary shall not consider the alternative calculations for airbag-equipped passenger automobiles under section 503(a)(4).*

(f) * * *

(g)(1) At the election of any manufacturer, the fuel economy of any emergency vehicle shall not taken into account in applying any fuel economy standard prescribed by or under subsection (a), (b), or (c) *and sections 514 and 515.* Any manufacturer electing to have the provisions of this subsection shall provide written notice of that election to the Secretary and to the Environmental Protection Agency Administrator.

(2) * * *

(h) * * *

(i) The Secretary shall consult with the Secretary of Energy in carrying out his responsibilities under this section *and sections 514 and 515.* The Secretary shall, before issuing any notice proposing under subsection (a), (b), (d), or (f) of this section, to establish, reduce, or amend an average fuel economy standard, provide the Secretary of Energy with a period of not less than ten days from the receipt of the notice during which the Secretary of Energy may, upon concluding that the proposed standard would adversely affect the conservation goals set by the Secretary of Energy, provide written comments to the Secretary concerning the impacts of the proposed standard upon those goals. To the extent that the Secretary does not revise the proposed standard to take into account any comments by the Secretary of Energy regarding the level of the proposed standard, the Secretary shall include the unaccommodated comments in the notice.

(j) The Secretary shall, before taking action on any final standard under this section *and sections 514 and 515* or any modification of or exemption from such standard, notify the Secretary of Energy and provide such Secretary with a reasonable period of time to comment thereon.

(k) through (l) * * *

Section 503 of that Act

DETERMINATION OF AVERAGE FUEL ECONOMY

SEC. 503. (a)(1).—Average fuel economy for purposes of section 502(a) and (c) *and section 514* shall, *subject to paragraph (4),* be calculated by the EPA Administrator by dividing—

(A) the total number of passenger automobiles manufactured in a given model year by a manufacturer, by

(B) a sum of terms, each term of which is a fraction created by dividing—

(i) the number of passenger automobiles of a given model type manufactured by such manufacturer in such model year, by

(ii) the fuel economy measured for such model type.

(2) Average fuel economy for purposes of section 502(b) shall be calculated in accordance with rules of the EPA Administrator. *Average fuel economy for purposes of section 515 shall be calculated in*

accordance with rules of the EPA Administrator that are based upon the method required in paragraph (1) for calculation of average fuel economy of passenger automobiles.

(3) * * *

(4)(A) If a manufacturer manufactures small passenger automobiles which comply with Federal Motor Vehicle Safety Standard Number 208 by means of airbags for the driver seating position only or for both the driver and front seat outboard seating positions, average fuel economy for purposes of section 502 (a) and (c) shall be calculated as provided under subsection (a)(1), except that in the calculation of the sum of terms under subsection (a)(1)(B) the term applicable to any model type of small passenger automobile for which there are automobiles so equipped with airbags shall be determined by adding—

(i) the fraction that is created by dividing the number of small passenger automobiles of such model type that are equipped with airbags for the driver seating position only, by 105 percent of the fuel economy measured for such model type,

(ii) the fraction that is created by dividing the number of small passenger automobiles of such model type that are equipped with airbags for both the driver and outboard front seating positions, by 110 percent of the fuel economy measured for such model type, and

(iii) the fraction that is created by dividing the number of small passenger automobiles of such model type that are not so equipped, by the fuel economy measured for such model type.

(B) For purposes of this paragraph, the term "small passenger automobile" means a passenger automobile with a wheel base of less than 100 inches whose measured fuel economy is at least 35 miles per gallon.

Section 506 of that Act

LABELING

SEC. 506. (a) * * *

(b)(1) The EPA Administrator shall compile and prepare a simple and readily understandable booklet containing data on fuel economy of automobiles manufactured in each model year. Such booklet shall also contain information with respect to estimated annual fuel costs, and may contain information with respect to geographical or other differences in estimated annual fuel costs. The Administrator of the Federal Energy Administration shall publish and distribute such booklets. *The Secretary of Energy shall distribute no less than 100 booklets each year to each dealer and shall distribute as many in addition to 100 booklets as are reasonably requested by dealers from time to time.*

(2) through (3) * * *

(c) through (d) * * *

(e) In carrying out his duties under this section, the EPA Administrator shall consult with the Federal Trade Commission, the Secretary, and the [Federal Energy Administrator] *Secretary of Energy.*

Section 507 of that Act

UNLAWFUL CONDUCT

SEC. 507. (a).—Subject to subsection (b), the following conduct is unlawful:

(1) the failure of any manufacturer to comply with any average fuel economy standards applicable to such manufacturer under section 502 (other than section 502(b) *and section 514*

(2) the failure of any manufacturer to comply with any average fuel economy standards applicable to such manufacturer under [section 502(b)] *sections 502(b) and 515*, or

(3) the failure of any person (A) to comply with any provision of this part applicable to such person (other than section 502, 506(a), 510, or 511, or (B) to comply with any standard, rule, or order applicable to such person which is issued pursuant to such a provision.

(b) * * *

Section 508 of that Act

CIVIL PENALTY

SEC. 508. (a) * * *

(b)(1)(A) * * *

(B) * * *

(C) Any civil penalty assessed under this subsection for a violation of section 507(a) (1) or (2) in model year 1995 or thereafter against a manufacturer shall be doubled if—

(i) the manufacturer violated section 507(a)(1) or (2) in the two model years immediately preceding the model year involved in the assessment; and

(ii) during each of such preceding years and the year involved in the assessment, the applicable average fuel economy standard exceeded the average fuel economy of the vehicles manufactured by such manufacturer by five tenths of a mile per gallon or more.

(2) through (6) * * *

(c) through (e) * * *

Section 513 of that Act

MANUFACTURING INCENTIVES FOR AUTOMOBILES

SEC. 513 * * *

PASSENGER AUTOMOBILES

SEC. 514.—Notwithstanding any other provision of this Act, the average fuel economy for passenger automobiles manufactured by any manufacturer in model year 1995 and each model year thereafter shall not be less than the number of miles per gallon established for such model year pursuant to the following:

Model year:

1995 through 2000	*For each such manufacturer, the average fuel economy required shall be an amount determined by the Secretary to be equal to the average fuel economy achieved by that manufacturer for passenger automobiles in model year 1988, plus an amount equal to 20 percent (as measured in miles per gallon) of such average fuel economy achieved for model year 1988; except that such standard shall not be less than 27.5 miles per gallon and shall not exceed 40 miles per gallon.*
2001 and thereafter.	*For each such manufacturer, the average fuel economy required shall be an amount determined by the Secretary to be equal to the average fuel economy achieved by that manufacturer for passenger automobiles in model year 1988, plus an amount equal to 40 percent (as measured in miles per gallon) of such average fuel economy achieved for model year 1988; unless such standard is modified under section 516; except that such standard shall not be less than 33 miles per gallon and shall not exceed 45 miles per gallon.*

AUTOMOBILES OTHER THAN PASSENGER AUTOMOBILES

SEC. 515.—Notwithstanding any other provision of this Act, commencing with model year 1995 and each model year thereafter, the average fuel economy for automobiles other than passenger automobiles manufactured by any manufacturer in any such model year shall not be less than the number of miles per gallon established for such model year pursuant to the following:

Model year:

1995 through 2000	*For each such manufacturer, the average fuel economy required shall be an amount determined by the Secretary to be equal to the average fuel economy achieved by that manufacturer for light trucks in model year 1988, plus an amount equal to 20 percent (as measured in miles per gallon) of such average fuel economy achieved for model year 1988; except that such standard shall not be less than 20 miles per gallon and shall not exceed 30 miles per gallon.*
2001 and thereafter.	*For each such manufacturer, the average fuel economy required shall be an amount determined by the Secretary to be equal to the average fuel economy achieved by that manufacturer in model year 1988, plus an amount equal to 40 percent (as measured in miles per gallon) of such average fuel economy achieved for model year 1988, unless such standard is modified under section 516; except that such standard shall not be less than 24 miles per gallon and shall not exceed 35 miles per gallon.*

MODIFICATIONS OF STANDARDS

SEC. 516. (a)—Any time after the beginning of fiscal year 1995, the Secretary may modify any average fuel economy standard established under this Act for model year 2001 and thereafter in accordance with this section. In response to a petition from any person that is filed at least 12 months in advance of the model year to which it is applicable, the Secretary shall conduct a rulemaking proceeding to determine whether to increase or decrease such standard to the level which the Secretary determines is the maximum feasible average fuel economy for that model year (taking into consideration the factors listed in section 502(e) and the need to reduce carbon dioxide emissions), except that the Secretary shall not reduce

any such standard below a standard equal to a 30 percent increase over the average fuel economy achieved by the manufacturer involved for the applicable type (or class) of vehicles for model year 1988. The Secretary may also conduct such a rulemaking on the Secretary's initiative.

(b) In determining the maximum feasible average fuel economy during a rulemaking proceeding under this section, the Secretary shall weigh equally each factor listed in section 502(e) and the need to reduce carbon dioxide emissions. In evaluating the economic practicability of the standard, the Secretary shall consider—

(1) the economic impact of the standard on the manufacturers and on the consumers of the vehicles subject to such standard;

(2) the savings in operating costs throughout the estimated average life of the vehicle compared to any increase in the price of, or in the initial charges for, or maintenance expenses of, the vehicles which are likely to result from the imposition of the standard;

(3) the total projected amount of energy savings likely to result directly from the imposition of the standard and the economic impact of such energy savings;

(4) any lessening of the utility or the performance of the vehicles likely to result from the imposition of the standard;

(5) the impact of any lessening of competition or any change in foreign trade that is likely to result from the imposition of the standard;

(6) the total projected amount of reduction in carbon dioxide emissions and the economic impact of such reduction; and

(7) other factors the Secretary considers relevant.

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